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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,442	10/14/2003	Ramin Rezaiifar	030014	6871
23696 7590 06/07/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER CHOU, ALBERT T	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 06/07/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/686,442	Applicant(s) REZAIIFAR ET AL.	
	Examiner Albert T. Chou	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "*the header further includes a destination identifier*". There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,522,880 to Verma et al. (hereinafter "Verma").

Regarding claim 1, Verma teaches a method in a wireless communication system **[Figs. 1-7]**, comprising:

receiving a request for a data service session for a mobile node **[Fig. 6, step 402; Tunnel Initiator 240 receives a registration request from a mobile node]**;

receiving an encapsulation configuration record **[Figs. 1-7; A virtual PPP session, used to encapsulate upper layer datagrams including Tunnel ID and MIN over a serial communication link, is established between Client 20 and Tunnel Endpoint 250; col. 3, lines 30-49, col. 9, line 62 – col. 10, line 4]**;

assigning a packet service identifier to the data service session **[Fig. 6; step 412, Mobile Identifier Number MIN]**;

assigning a micro-tunnel to the data service session for the mobile node **[Figs. 1-7; A virtual PPP session or tunnel is established between Client 20 and Tunnel Endpoint 250; col. 3, lines 30-49, col. 9, line 62 – col. 10, line 4]**, the micro-tunnel having a micro-tunnel identifier **[Fig. 6; step 412, Tunnel ID]**; and

generating an encapsulation field in response to the encapsulation configuration record **[Fig. 6, steps 412-416]**, the encapsulation field including the packet service identifier and the micro-tunnel identifier **[Fig. 6, steps 412-416; MIN & Tunnel ID; col. 3, lines 30-49]**.

Regarding claim 2, Verma teaches a method in a communication system supporting data packet transmissions **[Figs. 1-7]**, the method comprising:

identifying a first set of data packets for a destination using a first micro-tunnel identifier **[Figs. 1-2, steps 110-120; using tunnel ID value assigned by Tunnel Initiator 30 to the Tunnel 56 being set-up; col. 3, lines 50-59];**

transmitting the first set of data packets with the micro-tunnel identifier **[Figs. 1-2, steps 110-120; Exchange data between Mobile Node 20 and Endpoint 50 using tunnel ID value assigned by Tunnel Initiator 30 to the Tunnel 56; col. 3, lines 50-59];**

identifying a second set of data packets for the destination using a second micro-tunnel identifier **[Figs. 4 & 6, steps 402-416; using tunnel ID value assigned by Tunnel Initiator 240 to the Tunnel 66 being set-up; col. 9, lines 30-61];** and

transmitting the second set of data packets with the second micro-tunnel identifier **[Figs. 4 & 6, steps 416-424; Exchange data between Mobile Node 20 and Endpoint 50 using tunnel ID value assigned by Tunnel Initiator 240 to the Tunnel 66; col. 9, lines 30-61].**

Regarding claim 3, Verma teaches a method comprising: associating a first data packet treatment with the first micro-tunnel identifier **[Figs. 1-2, steps 110-120; using tunnel ID value assigned by Tunnel Initiator 30 for data packets transmitted through the Tunnel 56 being set-up; col. 3, lines 50-59];** and associating a second data packet treatment with the second micro-tunnel identifier **[Figs. 4 & 6, steps 416-424; using tunnel ID value assigned by Tunnel Initiator 240 for data packets transmitted through the Tunnel 66; col. 9, lines 30-61].**

Regarding claims 4 and 6, Verma teaches the first treatment and the second treatment are different **[Fig. 2, step 110 vs. Fig. 6. step 412]** and are determined by quality of service requirements **[Figs. 1-6; switched to Tunnel 66 due to the loss of connection with Client 20 using Tunnel 56]**.

Regarding claim 5, Verma teaches the first data packet treatment does not allow any of the first set of data packet to be dropped **[Figs. 4-5 step 334 & 6 steps 412-424; switched from Tunnel 56 to Tunnel 66 through invented hand-off process that does not allow packets to be dropped]**.

Regarding claim 7, Verma teaches the method comprising: establishing a tunnel to the destination **[Figs. 2 & 6]**; wherein the first and second micro-tunnel identifiers identify a first and second micro-tunnel within the tunnel **[Figs. 2 & 6; Tunnels 56 and 66 are assigned with Tunnel IDs, respectively, for identifying the respective tunnel]**.

Regarding claims 8-10 and 12, Verma teaches the method comprising: generating a header for the first set of data packets, the header including the micro-tunnel identifier **[Fig. 6; e.g. step 412, Tunnel ID]** and a destination identifier **[Fig. 6, steps 402-412, Mobile Identifier Number MIN]**, wherein the micro-tunnel identifier and the destination identifier are part of a Generic Routing Encapsulation (GRE) key **[Figs.**

**4 & 6, steps 412-414; Endpoint 250 uses the Tunnel ID and MIN to query Connection Table 254 and restore the call data information data for use with Tunnel 66; col. 9, lines 30-53], wherein the configuration record specifies available destination identifiers for identifying destinations [Fig. 6, steps 402-412; Mobile Identifier Number MIN].**

Regarding claim 11, Verma teaches the method comprising: receiving a configuration record identifying available micro-tunnel identifiers for application to sets of data packets [Figs. 1-2, step 110 & Figs. 4-6, steps 402-416; Tunnel ID].

Regarding claim 13, Verma teaches a first destination is a mobile node [Figs. 2, 5 & 6; Mobile Node].

Regarding claims 14 and 16, Verma teaches a wireless communications apparatus [Figs. 1 & 4; Tunnel Initiator/Tunnel Endpoint with processors, memories wherein the software is stored ] comprising:

means for receiving a request for a data service session for a mobile node [Fig. 6, step 402; Tunnel Initiator 240 receives a registration request from a mobile node];

means for receiving an encapsulation configuration record [Figs. 1-7; A virtual PPP session, used to encapsulate upper layer datagrams including Tunnel ID and

**MIN over a serial communication link, is established between Client 20 and Tunnel Endpoint 250; col. 3, lines 30-49, col. 9, line 62 – col. 10, line 4];**

means for assigning a packet service identifier to the data service session **[Fig. 6; step 412, Mobile Identifier Number MIN];**

means for assigning a micro-tunnel to the data service session for the mobile node **[Figs. 1-7; A virtual PPP session or tunnel is established between Client 20 and Tunnel Endpoint 250; col. 3, lines 30-49, col. 9, line 62 – col. 10, line 4],** the micro-tunnel having a micro-tunnel identifier **[Fig. 6; step 412, Tunnel ID];** and

means for generating an encapsulation field in response to the encapsulation configuration record **[Fig. 6, steps 412-416],** the encapsulation field including the packet service identifier and the micro-tunnel identifier **[Fig. 6, steps 412-416; MIN & Tunnel ID; col. 3, lines 30-49].**

Regarding claims 15 and 17, Verma teaches a wireless communications apparatus **[Figs. 1 & 4; Tunnel Initiator/Tunnel Endpoint with processors, memories wherein the software is stored]** supporting data packet transmissions comprising:

means for identifying a first set of data packets for a destination using a first micro-tunnel identifier **[Figs. 1-2, steps 110-120; using tunnel ID value assigned by Tunnel Initiator 30 to the Tunnel 56 being set-up; col. 3, lines 50-59];**

means for transmitting the first set of data packets with the micro-tunnel identifier **[Figs. 1-2, steps 110-120; Exchange data between Mobile Node 20 and Endpoint**



**50 using tunnel ID value assigned by Tunnel Initiator 30 to the Tunnel 56; col. 3, lines 50-59];**

means for identifying a second set of data packets for the destination using a second micro-tunnel identifier **[Figs. 4 & 6, steps 402-416; using tunnel ID value assigned by Tunnel Initiator 240 to the Tunnel 66 being set-up; col. 9, lines 30-61];** and

means for transmitting the second set of data packets with the second micro-tunnel identifier **[Figs. 4 & 6, steps 416-424; Exchange data between Mobile Node 20 and Endpoint 50 using tunnel ID value assigned by Tunnel Initiator 240 to the Tunnel 66; col. 9, lines 30-61].**

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent No. 7,173,932 to Miki et al. disclose "Packet Switching Apparatus"
- US Patent No. 6,643,475 to Calhoun discloses "Method And Device For Tunnel Switching"
- US Patent Application Pub. No. 2006/0126644 A1 by Akahane et al. disclose "VPN Router And VPN Identification Method By Using Logical Channel Identifiers"

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Albert T. Chou

May 29, 2007

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CHI PHAM  
SUPERVISORY PATENT EXAMINER

6/1/07